

Bagger GUI User Guide

How to create and validate bags with Bagger

05/09/2012 (ver. 1.5)

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Overview

Bagger is a Library of Congress tool for bagging files into the BagIt specification structure. It is a graphical user interface (GUI) designed by Library of Congress to be a user-friendly alternative to the command-line BagIt application. More detailed documentation of the BagIt specification and application, file transfer workflow, and command line operations can be found in the document *SAN Bagging: How to Install and Use the BagIt Library to Create and Validate Bags*, ver. 2.2 (4/14/2011). The official download of the BagIt application can be found at <http://sourceforge.net/projects/loc-xferutils/>, and the most recent BagIt structure specification at the time of the writing of this document can be found at <http://tools.ietf.org/html/draft-kunze-bagit-06>.

The structure of the bags created in this guide conform to the BagIt specification 0.97.

Bag structure created using this guide:

```
<base directory>/
|  bag-info.txt
|  bagit.txt
|  manifest-sha256.txt
|  tagmanifest-sha256.txt
\--- data/
      |  [payload files]
```

Special Note on Non-Windows Operating Systems

This manual presumes that you are moving material within a Windows environment (that the original machine and bag destination—probably a hard drive—are both running on Windows operating systems). If materials are originating on a Mac OS computer or computer running another non-Windows operating system, please contact the staff of the Electronic Records Branch for further assistance.

1. Downloading and Installing Bagger

1.1 Download Files from Sourceforge

Download the most recent version of Bagger by

clicking on this link: <http://sourceforge.net/projects/loc-xferutils/files/loc-bagger/>

and clicking on the most recent version. The most recent version will be the largest number.

(At the time this guide was written, Bagger 2.1.2 was the most recent version.)

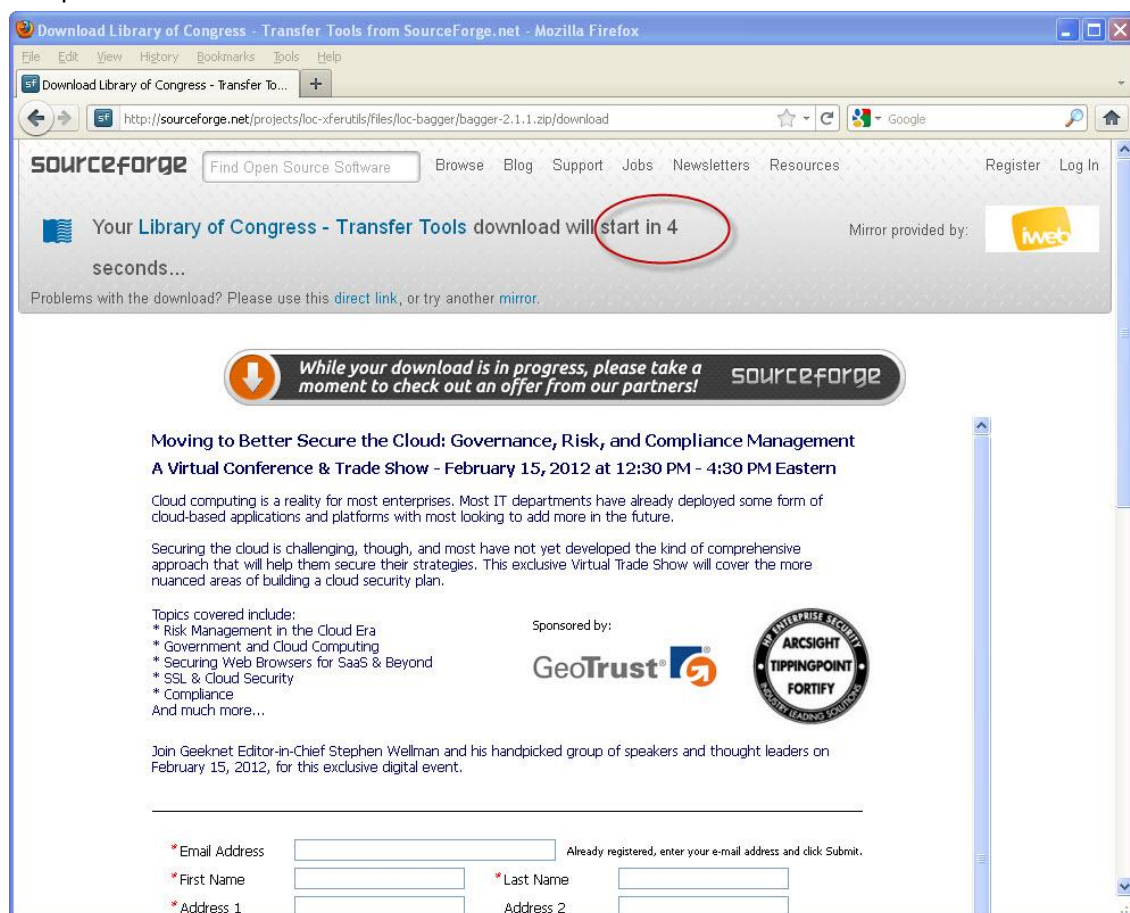


After clicking on the most recent version, click on the **[version].zip** link.



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1.1.1 The Sourceforge download page will look something like this. Sourceforge will make you wait five seconds, after which the files will automatically download. Do not navigate away from the page before the download completes:



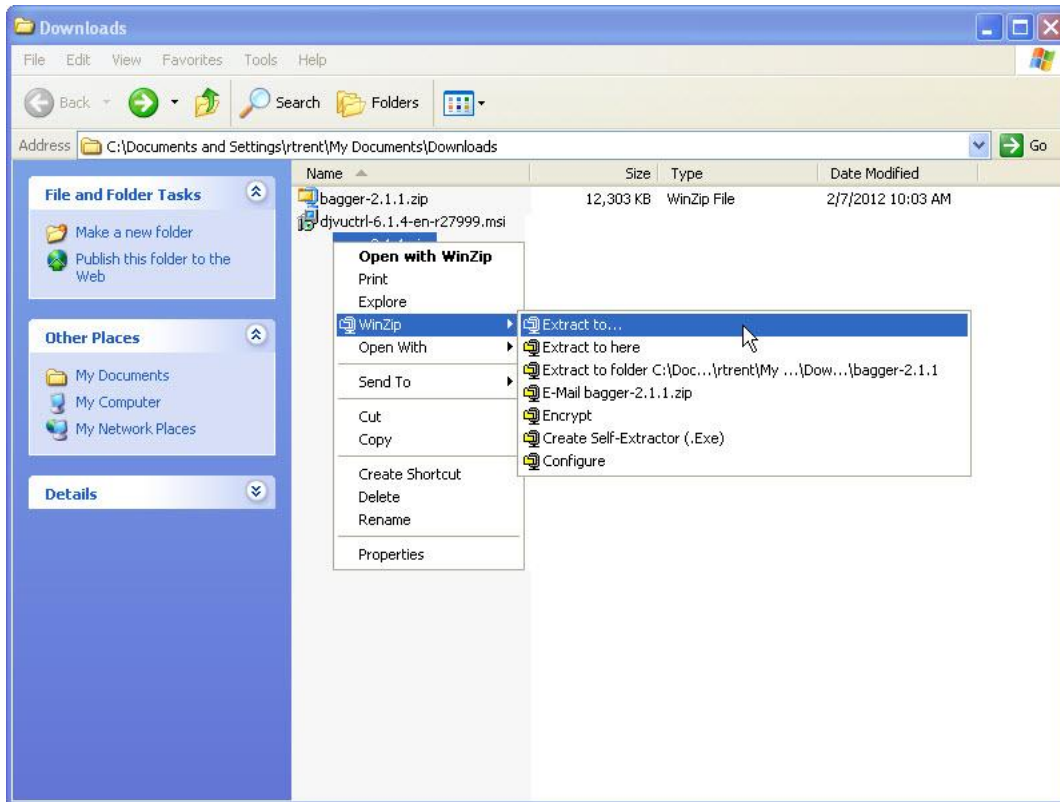
1.1.2 You can save the zip file wherever you like, but note the location. Your computer may automatically save it in a download folder.

1.2 Extract Zipped Files

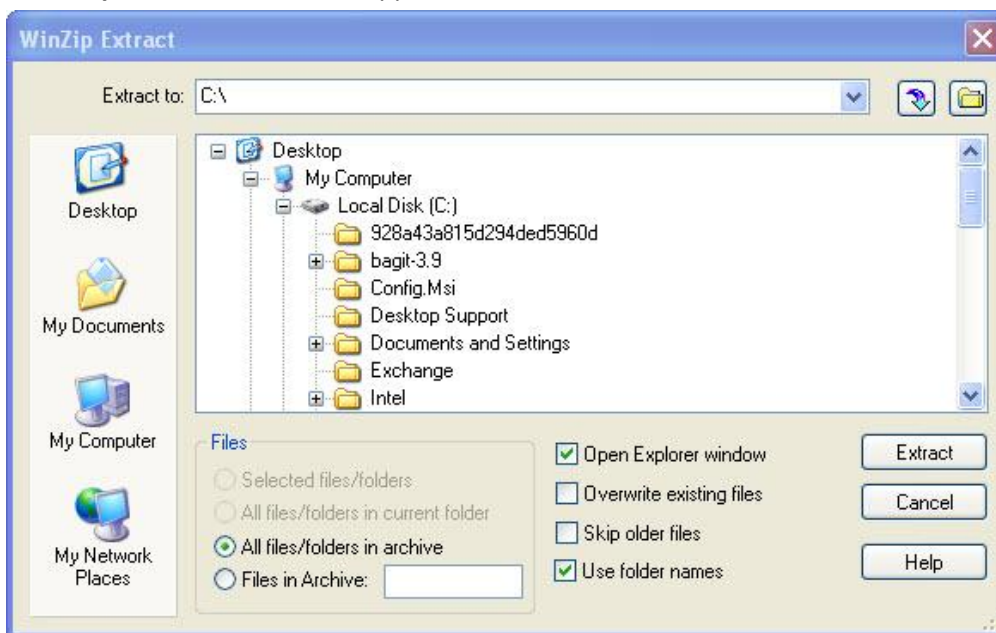
1.2.1 Extract using Winzip

To extract the files from the zip package, navigate to the folder into which [bagger-2.1.1.zip](#) (or whichever version you downloaded) was saved. If you have **WinZip** installed, select the [bagger-2.1.1.zip](#), and with the *right-mouse-menu* select **Winzip->Extract to**

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A **WinZip Extract** window will appear:



Save the extracted file to **C:**

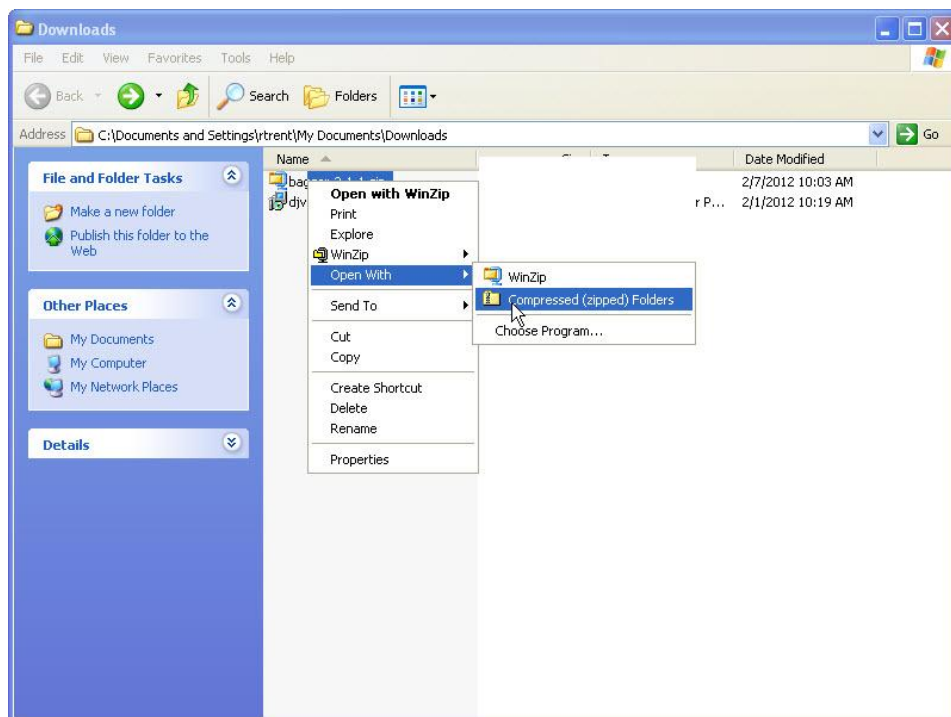
Winzip will create the bagger directory within C:\

1.2.2 Extract using Windows default zip reader

If you don't have WinZip and are running on a Windows system that supports reading zipped files: select the **bagger-2.1.1.zip**, and with the *right-mouse-menu* select:

Open With -> Compressed (zipped) Folders

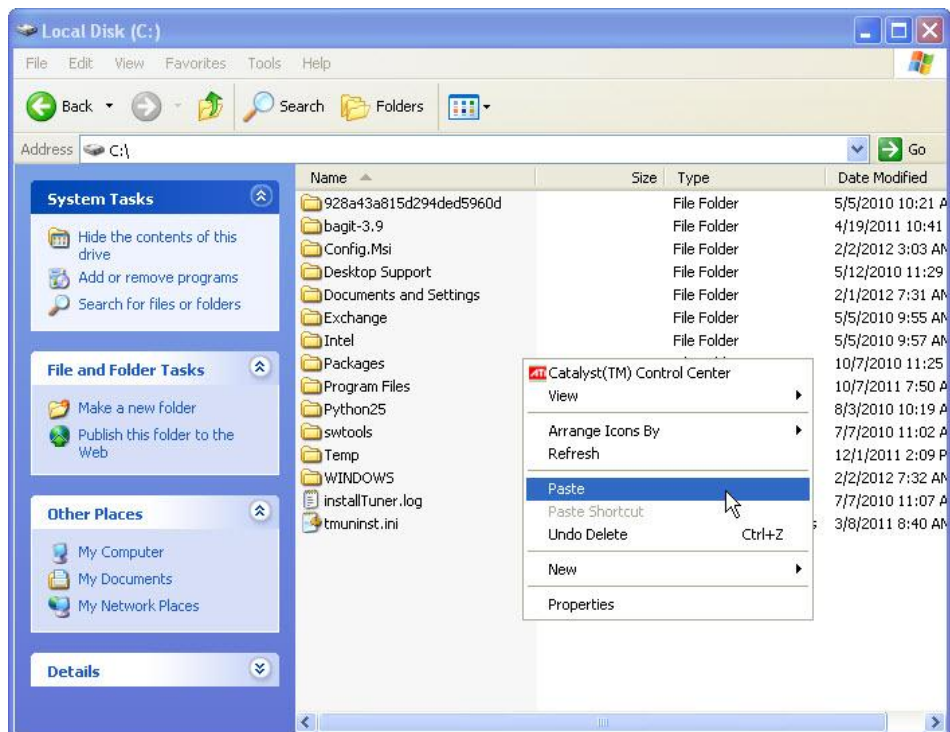
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Select the [bagger-2.1.1](#) folder and with the *right-mouse-menu* select: **Copy**

Navigate to **C:**

Click anywhere in the white area of the window. With the *right-mouse-menu*, select: **Paste**.



Navigate to the new [bagger-2.1.1](#) folder to verify that you see the extracted files, specifically, the **C:\bagger-2.1.1\bagger.bat** file.

1.3 Resolve Java Error

Bagger requires Java Runtime Environment (JRE) be installed and accessible by Bagger. JRE is widely used, and most computers will already have a copy. If the computer you are working with (a) does not have a copy or (b) the computer cannot correctly locate its copy, you will receive an error when you attempt to open Bagger.



If you do not receive an error, you may skip section 1.3 and proceed directly to 1.4.



However, if you do receive a Java error, you will need to follow the following steps with administrator rights to your computer. If you do not have administrator rights, your computer will refuse to allow you to make the following changes. If you are not sure if you have administrator right, try the following steps and stop if you receive a message indicating that you need administrator rights to proceed.

1.3.1 Open Bagger

Double-click **C:\bagger-2.1.1\bagger.bat**, and the Bagger application will start.

(Note: if you have installed Bagger in another location, navigate to **bagger.bat** and double-click).

A black command-line window will first appear, and a moment later this image:

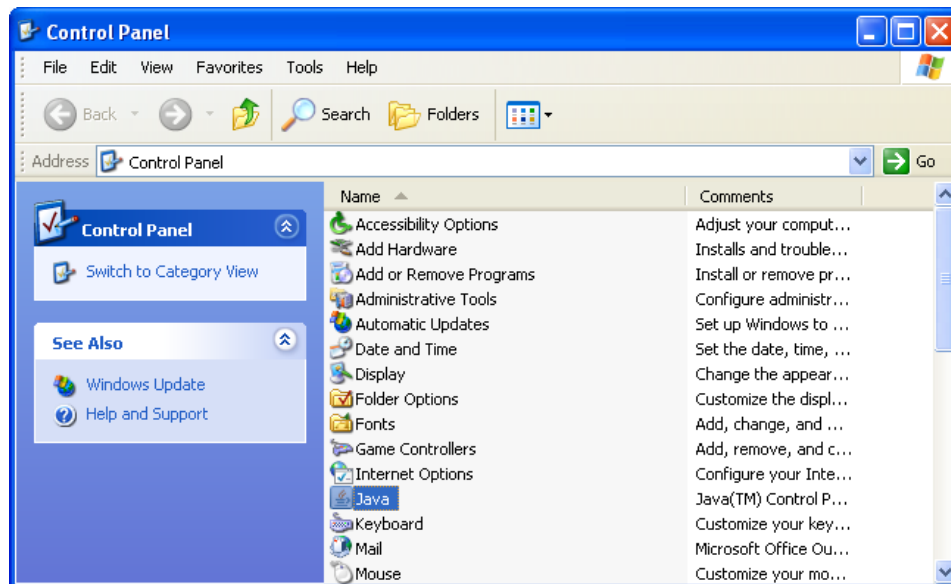


If Bagger fails to start and you receive a Java error indicating that Java is not properly installed, continue with the following instructions. If you do not receive this error, skip ahead to section 1.4.

1.3.2 Windows XP: Confirm that JRE is installed.

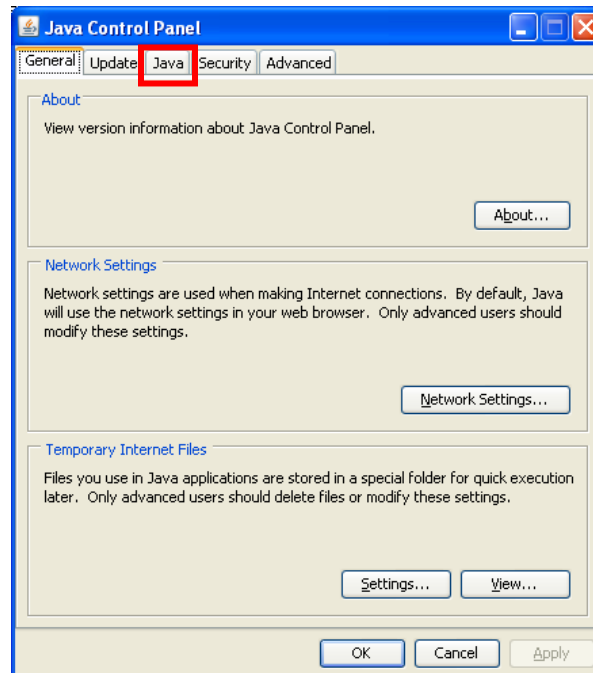
You can check your computer to see if you have a JRE installed by selecting:

Start -> Settings -> Control Panel



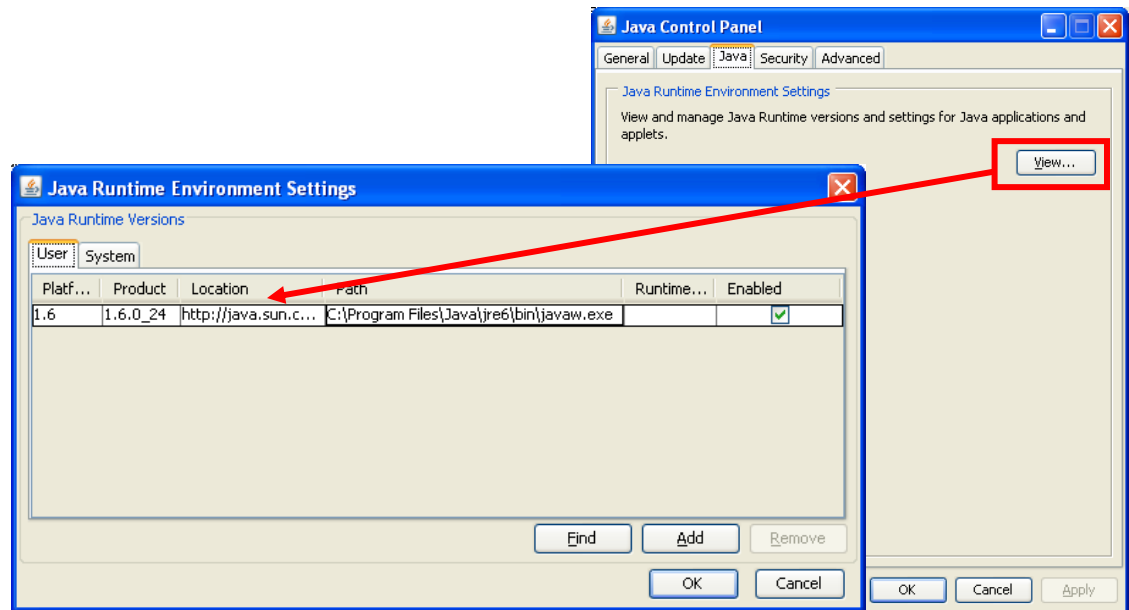
Look to see if you have a **Java** item in your list.

Double-click on **Java** to open the [Java Control Panel](#)



Select the **[Java]** tab to view the screen that provides access to the [Java Runtime Environment Settings](#)

Select the **[View...]** button, and this will display the Java Runtime Versions you have installed



This displays what version (1.6.0_24) and the installation location.

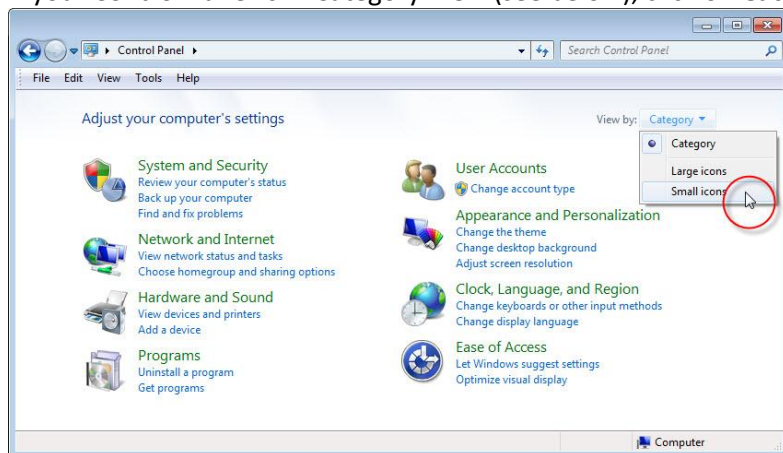
If it appears that you have a JRE installed, skip down to step 1.2 to confirm that the JRE environmental variable is defined.

1.3.3 Windows 7: Confirm that JRE is installed.

You can check your computer to see if you have a JRE installed by selecting:

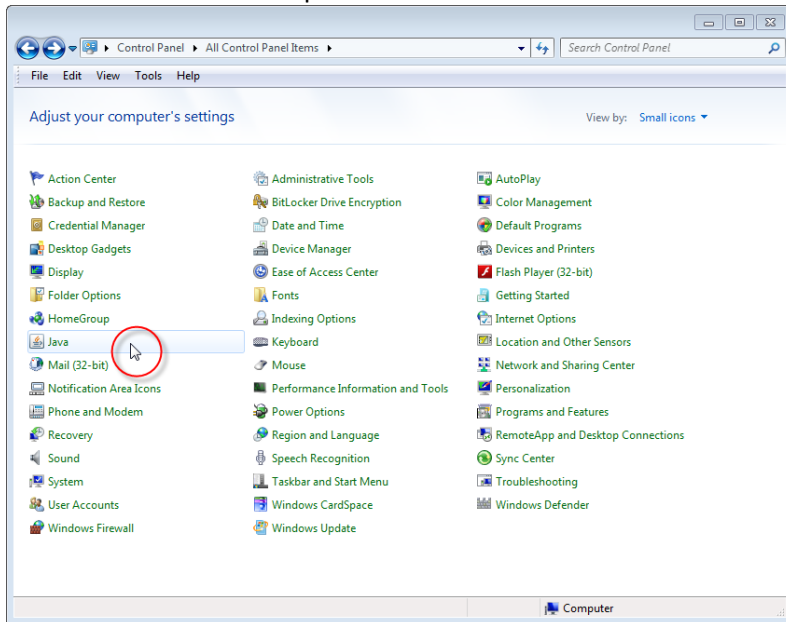
Start -> Control Panel

If your Control Panel is in Category View (see below), click on **Category** and change it to **Small Icons**.

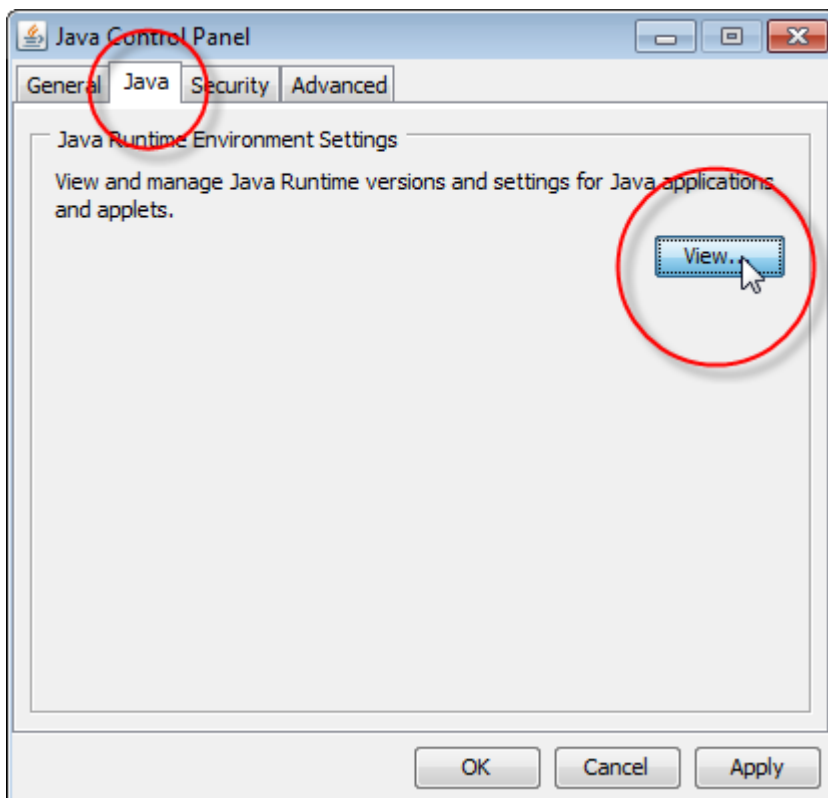


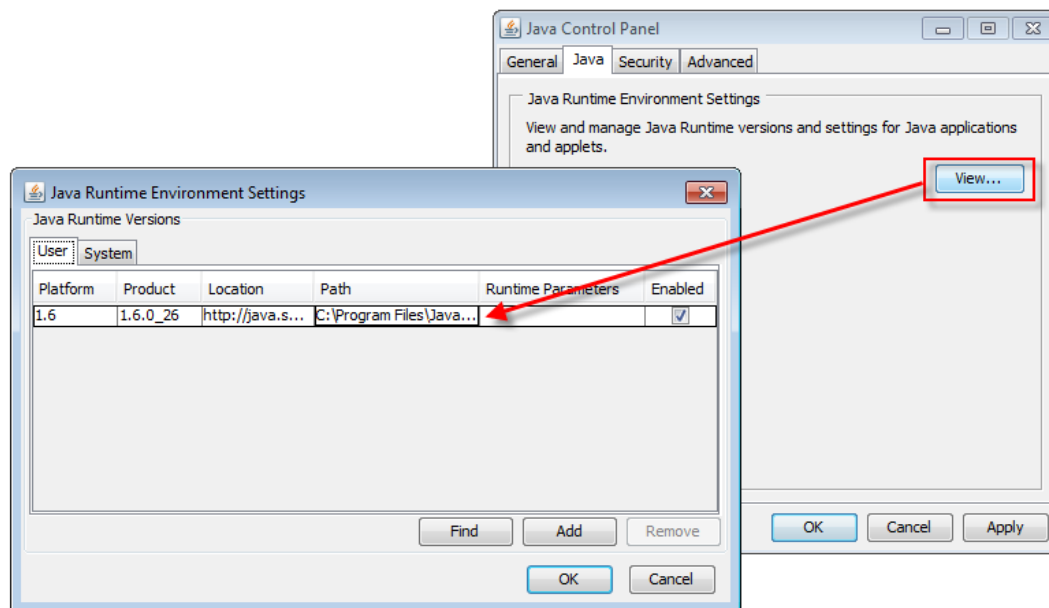
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Double-click on **Java** to open the [Java Control Panel](#)



Select the **[Java]** tab to view the screen that provides access to the [Java Runtime Environment Settings](#).
Select the **[View...]** button, and this will display the Java Runtime Versions you have installed.





This displays what version (1.6.0_26 in this example) and the installation location.

If it appears that you have a JRE installed, skip down to step 1.2 to confirm that the JRE environmental variable is defined.

1.3.4 Download and Install JRE if it is not already installed.

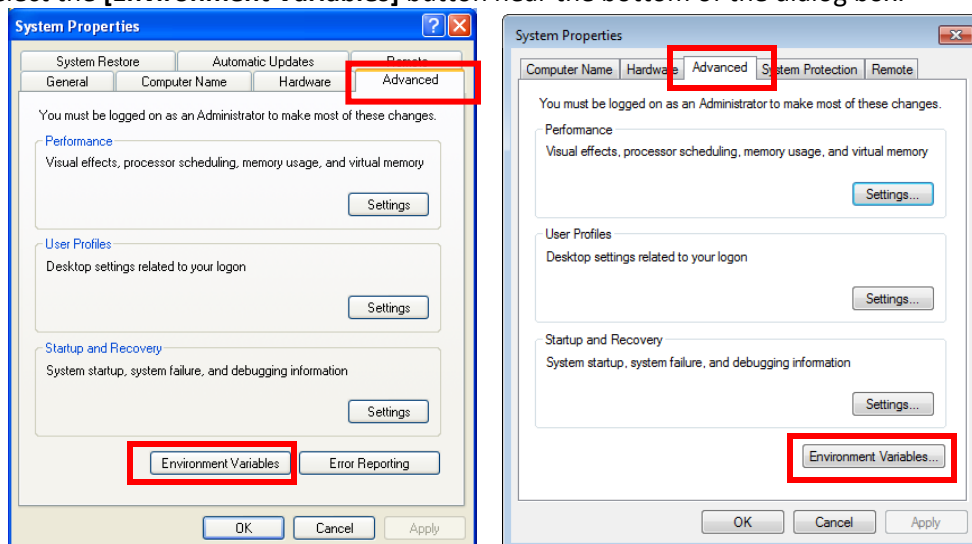
1. Oracle: <http://www.oracle.com/technetwork/java/javase/downloads/index.html>
2. CNET: http://download.cnet.com/Java-Runtime-Environment-JRE/3000-2356_4-10009607.html

Note: Parts of this document were written using JRE 6 Update 23 and other parts with Update 26.

Note the JRE is generally installed to the C:\Program Files folder.

1.3.5 Configure JRE environmental variable

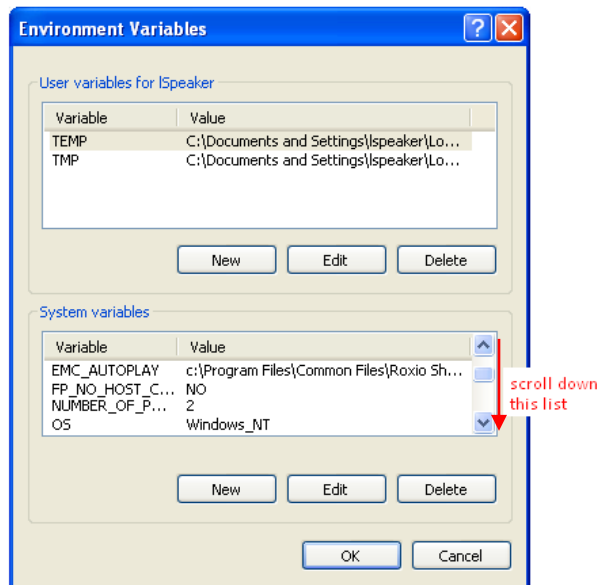
- a. Find the **My Computer** icon on your desktop.
- b. Using the right-mouse-button menu, select the **Properties** option.
- c. Select the **[Advanced]** tab in Windows XP or the **Advanced systems settings** link on the left in Windows 7.
- d. Select the **[Environment Variables]** button near the bottom of the dialog box.



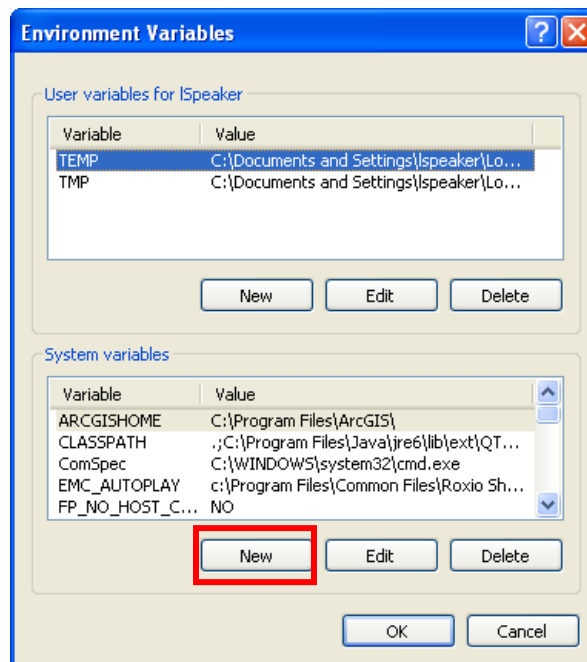
e. An **Environment Variables** window will appear.

First verify that the **JAVA_HOME** environment variable is **not** defined.

The **Environmental variables** are listed alphabetically. Scroll down the list, until you see where the environmental variables would be listed that start with J. In the example below, there is no **JAVA_HOME** variable listed in this display, so it is not yet defined. We will create it in the following steps.



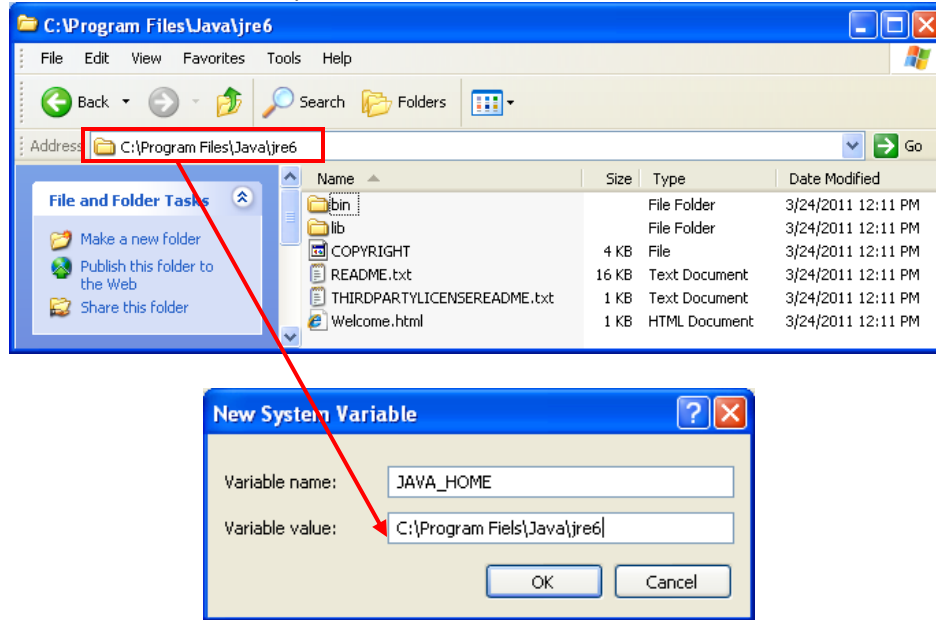
f. To create a new Environmental variable, select the **[New]** button in the lower half of the window.



g. A **New System Variable** window will appear.

In the **Variable name** field, type **JAVA_HOME**

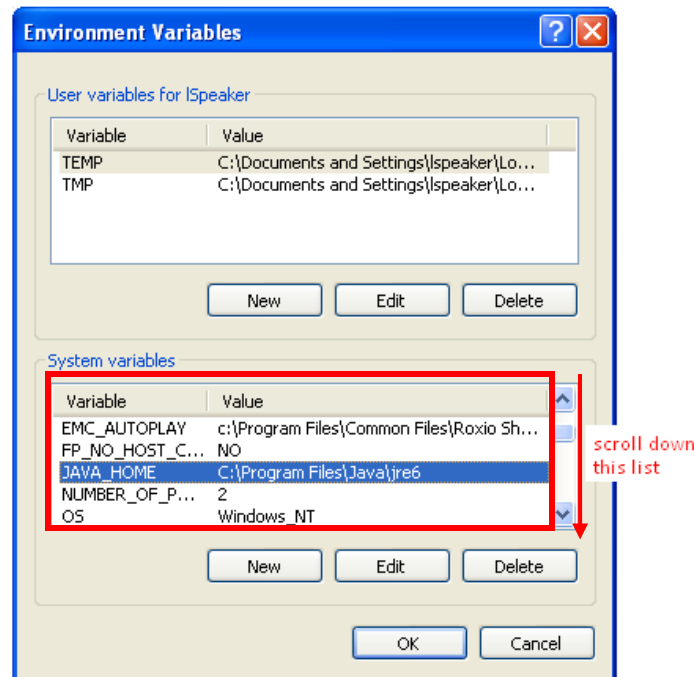
In the **Variable value** field, type the complete path to the folder that contains the **JAVA bin** folder, the **lib** folder, and the **COPYRIGHT** file. This will be **above the bin** folder that contains **java.exe** (Note: this will **not** be the **bin** folder, but the folder up one level from the **bin** folder).



Click **[OK]** to close the **New System Variable** window

h. Review the list of **System variables** and verify the **JAVA_HOME** variable is there.

The **System variables** are listed alphabetically in the lower window. Scroll down through your list of **System variables** to confirm the **JAVA_HOME** variable was properly assigned.



Click **[OK]** to close the **Environment Variables** window.

Click **[OK]** to close the **System Properties** window.

2. Creating a Bag

2.1 Open Bagger

2.1.1 If Bagger is installed on an external hard drive, navigate to the external hard drive, locate the folder **bagger-2.1.1** (or whichever version of bagger you have installed) and double click on the file **bagger.bat**. For example, if your external hard drive is mapped to the E:\ drive, navigate to **E:\ bagger-2.1.1\bagger.bat**, double click bagger.bat, and the Bagger application will start.

(Note: if you have installed Bagger in another location, you will need to locate **bagger.bat** file and double-click). A black terminal window will first appear, and a moment later this image:

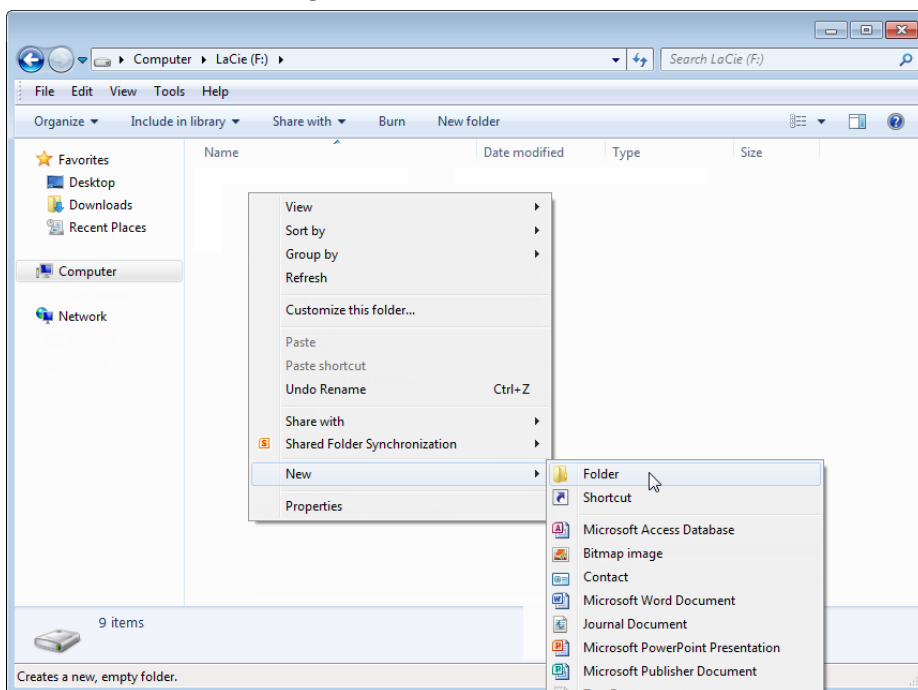


2.2 Prepare the External Hard Drive “Bagit_Bags” Folder

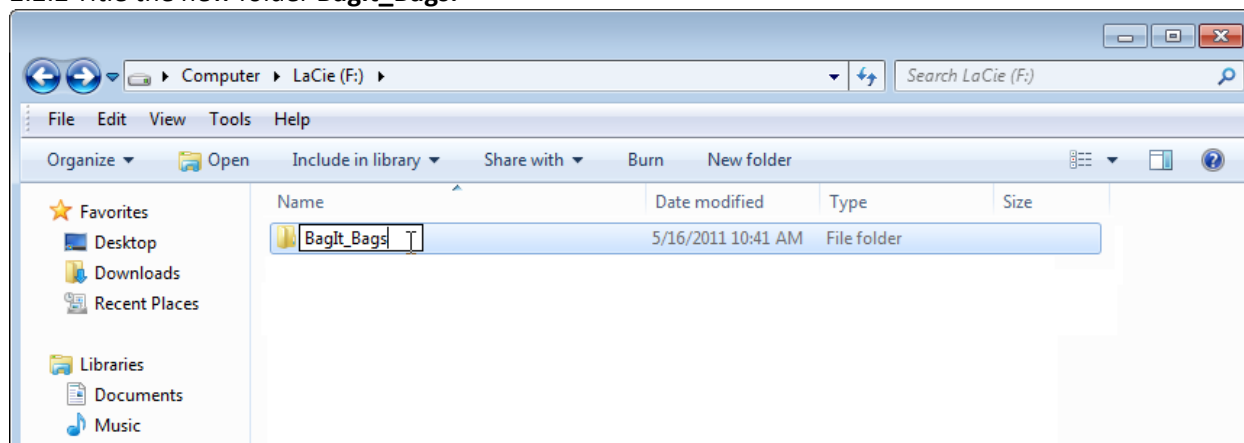
 **If the Bagit_Bag folder is already on your hard drive, you can skip down to step 2.3.**

If you are transferring documents from a state agency or local office computer to an external hard drive, you will save the bag directly to the external hard drive. Bags should be saved in a uniform location.

2.2.1 Navigate to your external hard drive. If you have not already created a folder called **Bagit_Bags**, do so now. To create a new folder, **right click**, hover over **New**, and then click **Folder**:



2.2.2 Title the new folder **Bagit_Bags**:

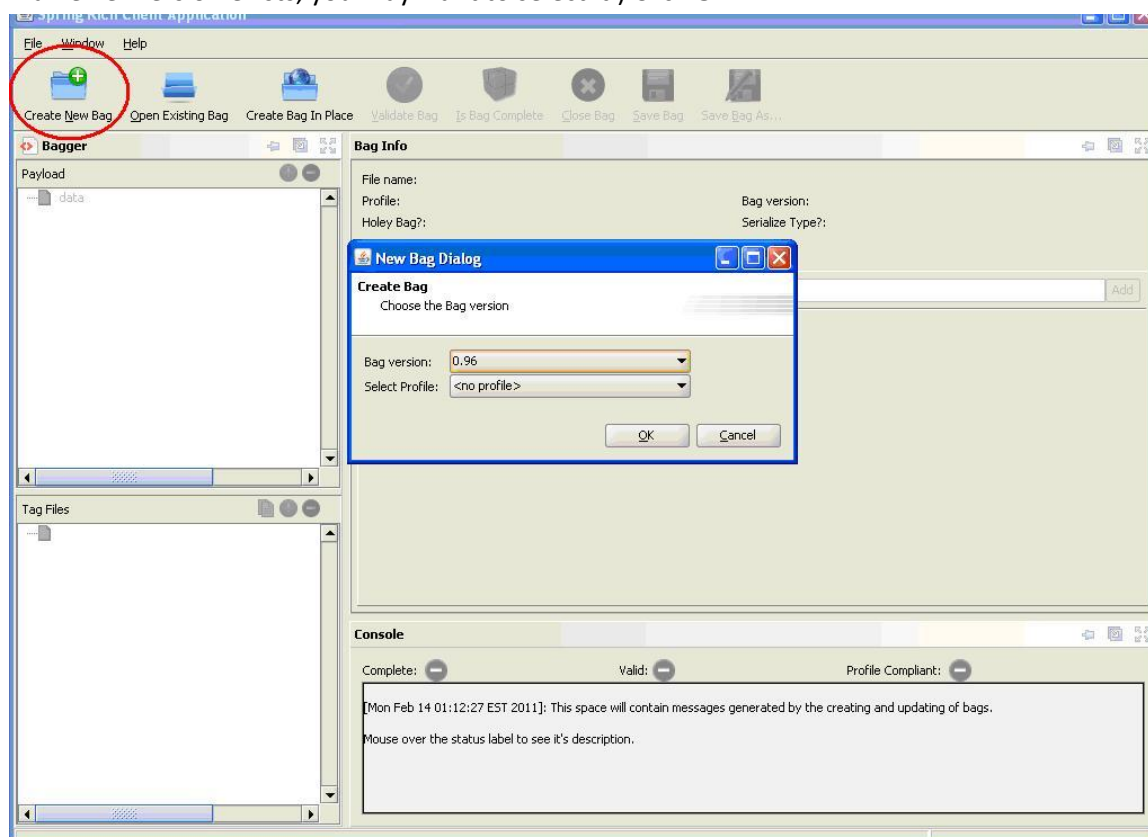


2.3 Create a Bag

2.3.1 Creating a New Bag

2.3.1.1 On the main screen, click **Create New Bag**.

2.3.1.2 A small dialog box should come up that asks you for the bag version and profile. Make sure **bag version 0.96** is selected and **<no profile>**. (Note: at the time this document was created, the newest bag version was 0.96. If a newer version exists, you may want to select it.) Click **OK**.



2.3.2 Adding payload to bag

2.3.2.1 Nothing has been saved yet, and there is nothing in your bag yet. To add file, either click on the green **Add**

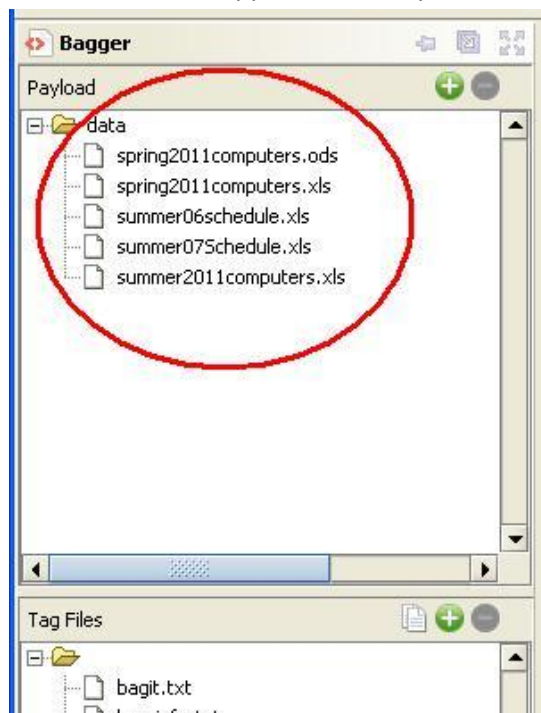
Data button or go to **File > Add Data...**



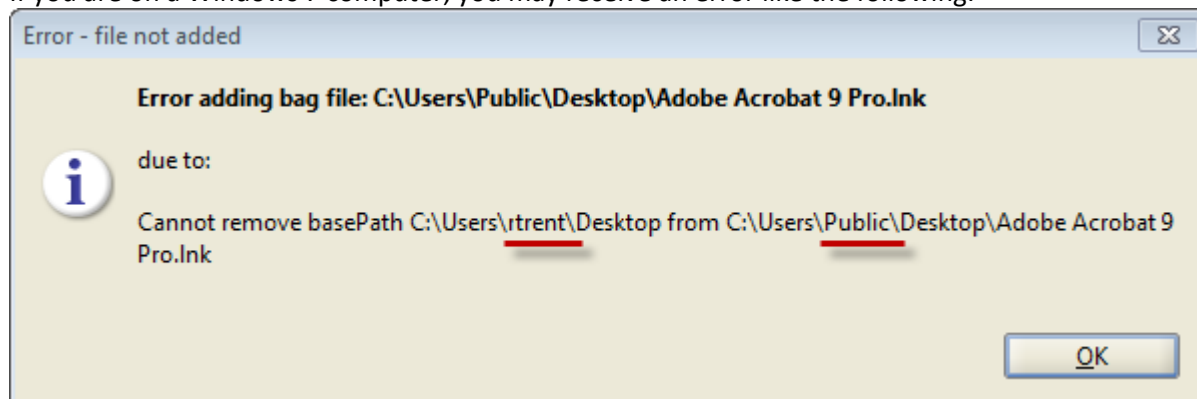
2.3.2.2 A new dialog box will appear. Select the files and/or folders you would like to be bagged. You may select as many folders as you like from as many places as you like.

2.3.2.3 Select the **Open** button to place your selections in the bag. (Note: When you click **Open**, nothing happens to the actual files. You are simply preparing a list, and you may still add and remove files freely at this stage. You are not committing yourself to anything.)

The new files will appear in the Payload section on the left:



If you are on a Windows 7 computer, you may receive an error like the following:



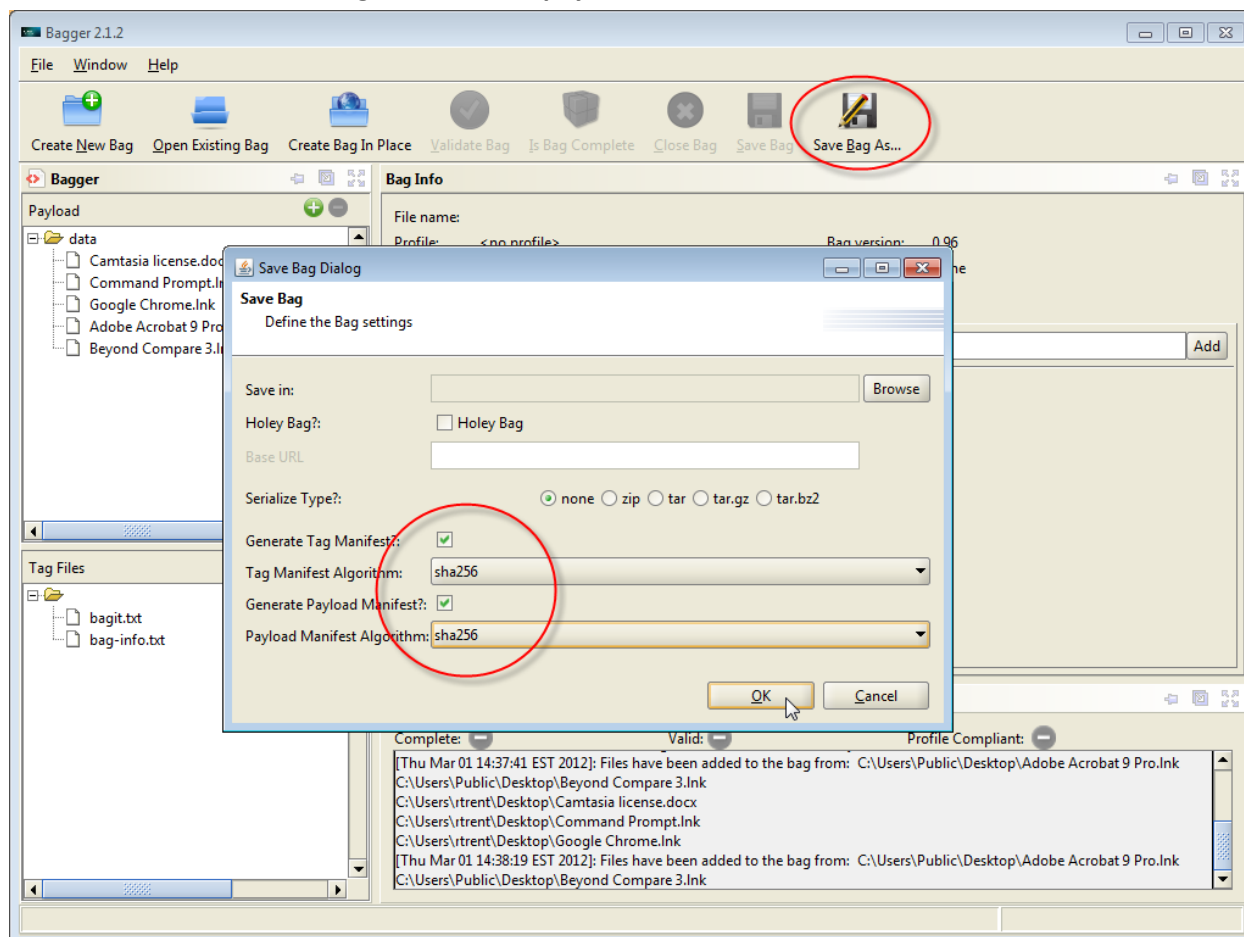
If you receive an error like this, note the exact file paths that it suggests. In the error above, the user asked Bagger to retrieve a file from inside C:\Users\rtrent\Desktop and bagger indicated that it was unable to retrieve the file because its actual path is C:\Users\Public\Desktop\Adobe Acrobat 9 Pro.Ink. In this example, the user needed to navigate to C:\Users\Public\Desktop\Adobe Acrobat 9 Pro.Ink to add the Adobe Acrobat 9 Pro.Ink file. These

errors occur because of the way users are handled in Windows 7. A file may be visible to several users, but is owned by only one user.

2.3.4 Saving the Bag

2.3.4.1 Click on the **Save Bag As...** button.

2.3.4.2 Make sure that the **tag manifest** and **payload manifest** boxes are checked and set to **sha256**:



2.3.4.2 Click the **Browse** button and browse to the **Bagit_Bags** folder on your external hard drive. In the **File Name** box, type in the name of the bag. This will be the title of the folder that holds the bag.

Follow these rules when naming a bag:

- Always end the bag name with **_bag**
- Replace all empty spaces with underscores (**Easley_Exec_Orders** instead of **Easley Exec Orders**).
- Make the name of the bag meaningful, so that if you look at the bag another date, you can easily discern the nature of its contents without having to open it.
- Include the date the bag was made (today's date)

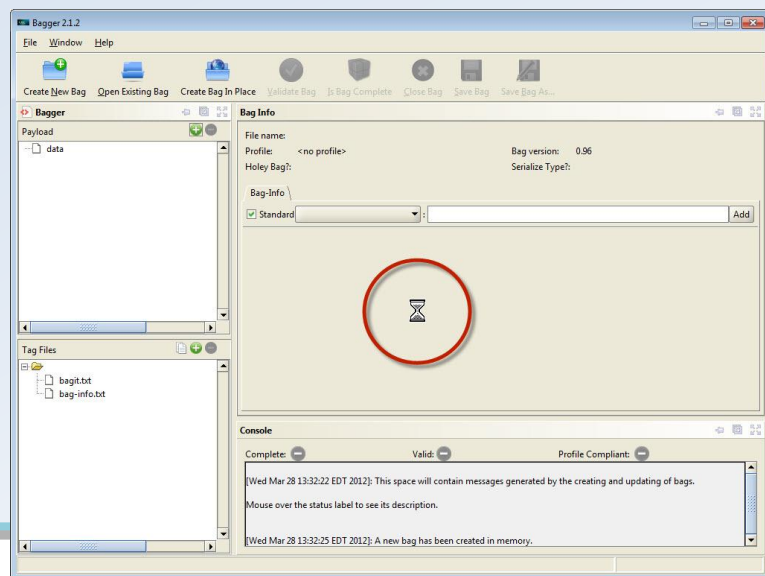
Examples bag names:

Easley_Exec_orders_20120201_bag

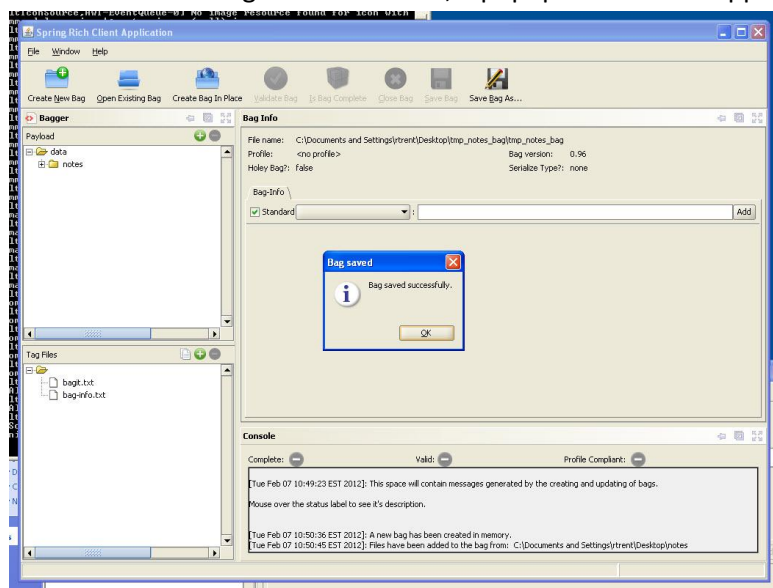
3989_lankford_documents_20120214_bag

2.3.4.3 Click **OK** to begin saving the bag. After you click **OK**, Bagger will first checksum the original files, then copy the files onto the hard drive.

! After you click OK to save the bag, if you hover your cursor over Bagger, the cursor will appear busy. This will continue until Bagger has finished checksumming the files. Once Bagger begins to copy the files, a progress bar will appear and the cursor will return to normal. Do not worry if Bagger appears to hang for a long time. It is simply checksumming the files.

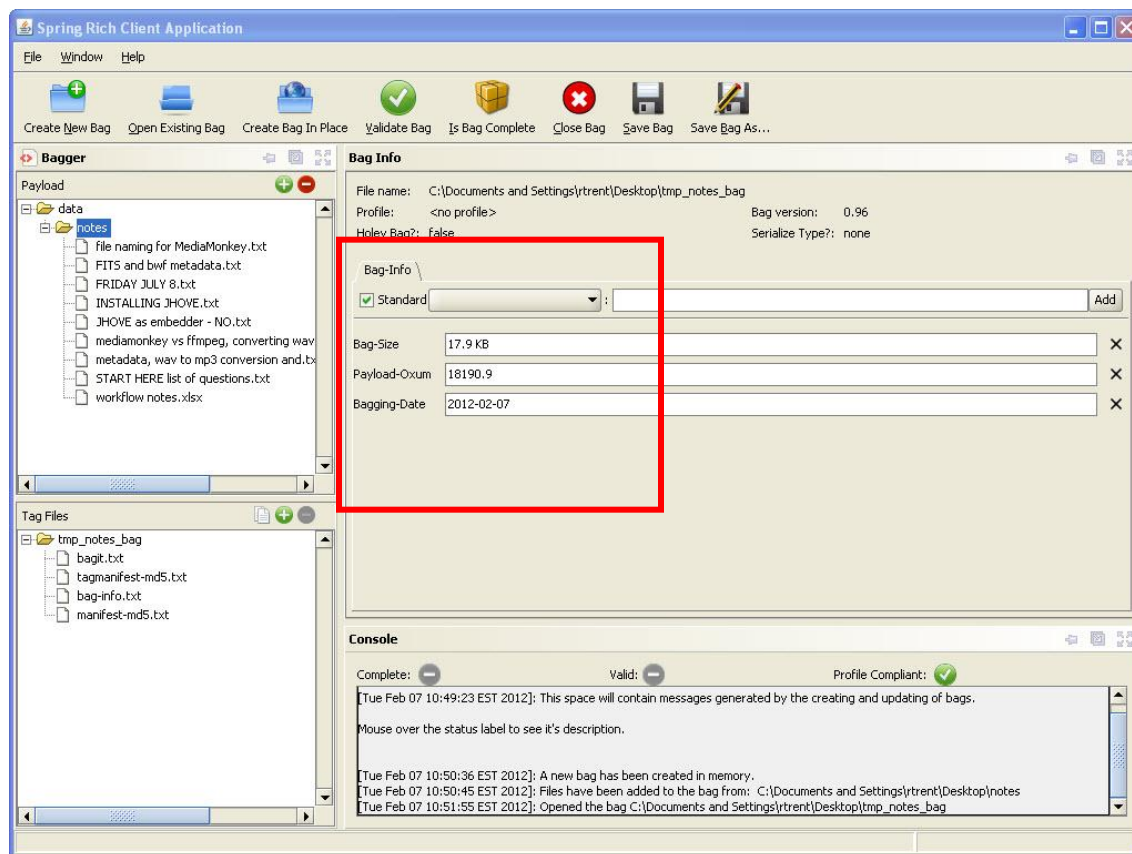


2.3.4.4 Once the bag has been saved, a popup window will appear:



Click **OK** on the popup window. The popup window will disappear and the main window will display information about the new bag:

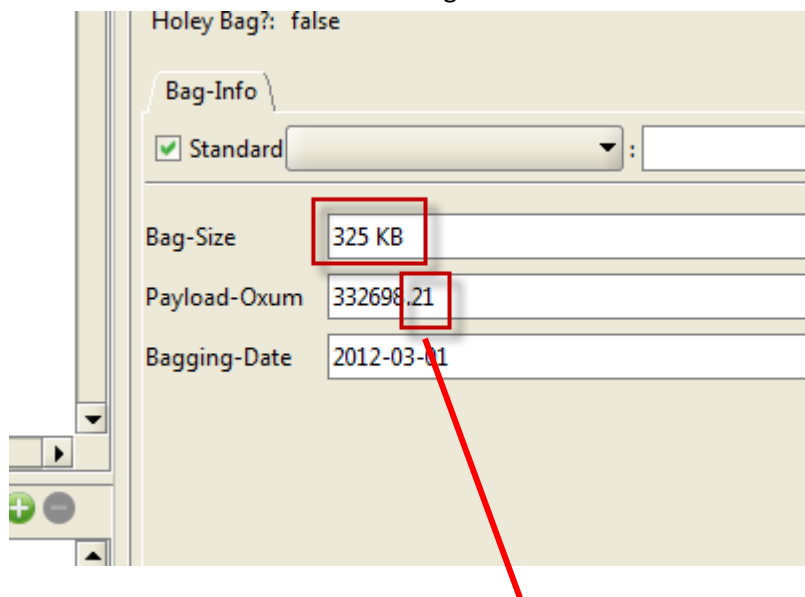
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2.3.5 Record the Size of the Saved Bag

On this page (see below), you will probably want to note two pieces of information for the Transfer Form (review most recent version of Transfer Form to confirm necessary information):

- the size of the bag, which can be found in Bagger as “**Bag-Size**”
- the number of files in the bag’s payload, which can be found in Bagger in the numerals after the period in the “**Payload-Oxum.**” For example, in the screen copied below, the payload-oxum was 332698.21. Thus, there were 21 files in this bag.



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This information may be called for on the Transfer Request Form, which at the time of the writing of this document required the total size of the bag and the number of files in the bag payload:

13. A Public Series Listing Form (Form ☐ Yes) ID is attached to this transfer request.

Transfer Container	Bag Name	Number of Files Included in Payload	Total Size of the Files in the Bag	Example Formats of Files in the Bag
HD1	23999_Minutes_1989-2010_bag	21	325KB	DOC, PDF-A
HD1				
HD1				
Total for the entire transfer:				

List additional bags on a continuation page.

FOR STATE RECORDS CENTER USE ONLY

Records Received (name and date)	Record Dates	Container Type and Number	Confirmed File Size and Number	99S Received
-------------------------------------	--------------	------------------------------	-----------------------------------	--------------

3. Validating a Bag

Immediately after creating a bag, it is a good idea to validate it to authenticate that the bag was successfully created.

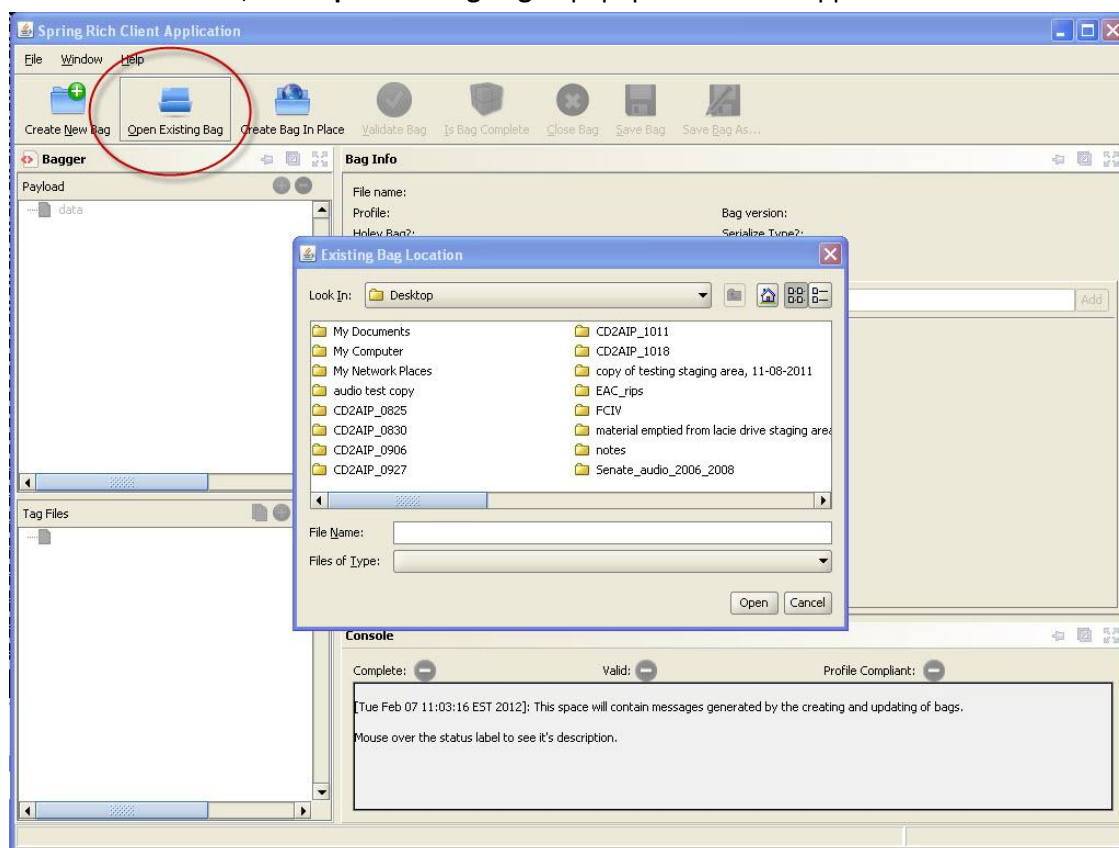
3.1 Validate Bag

3.1.1 Open Existing Bag



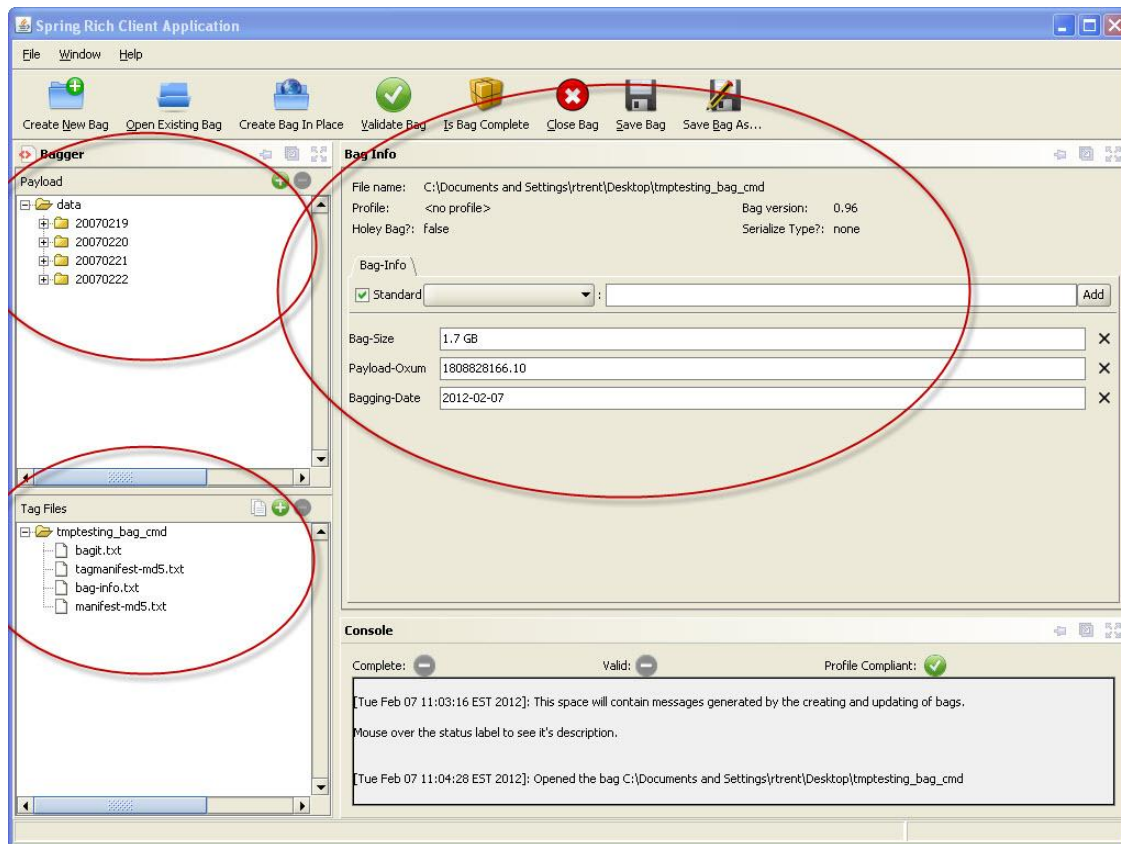
If the Bagit_Bag folder is already on your hard drive, you can skip down to step 2.3.

On the main screen, click **Open Existing Bag**. A popup window will appear:



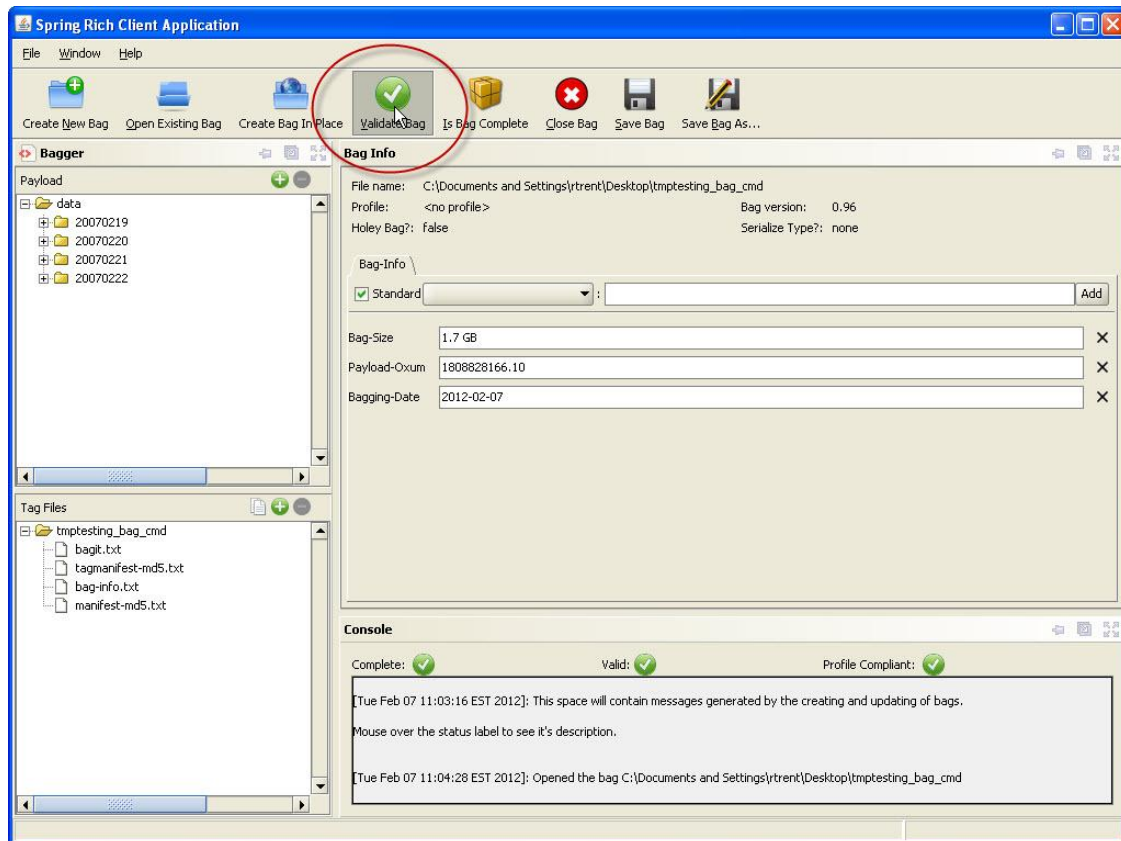
Navigate to the bag you would like to validate and click **Open**. The bag will appear in the main screen:

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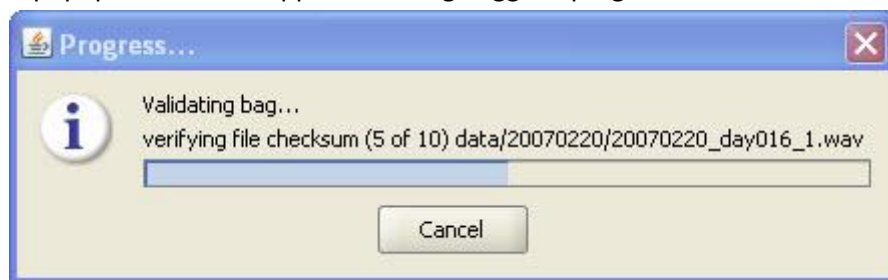


3.1.2 Validate Bag

Click **Validate Bag**. Bagger will immediately start validating the bag.

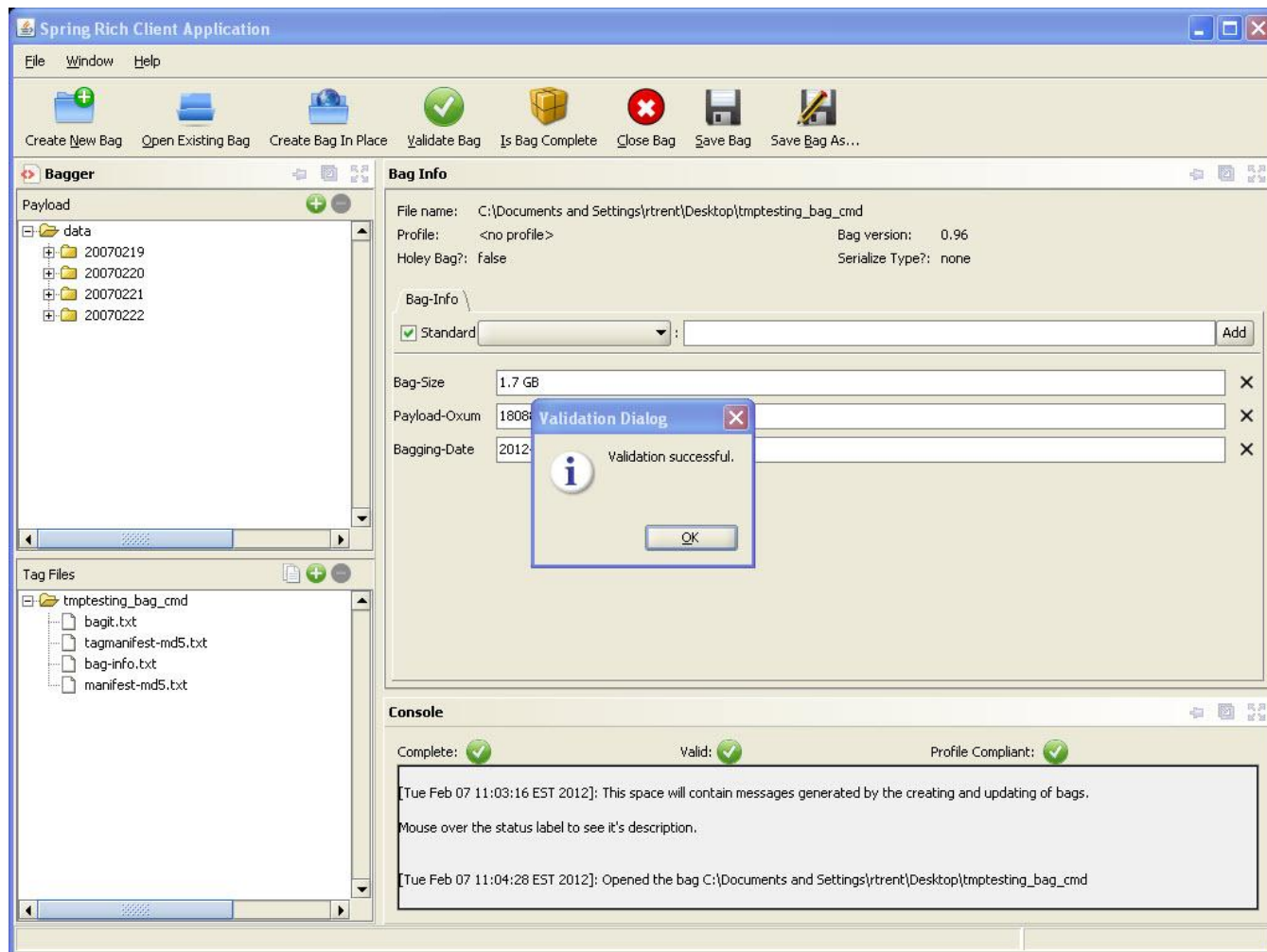


A popup window will appear showing Bagger's progress:

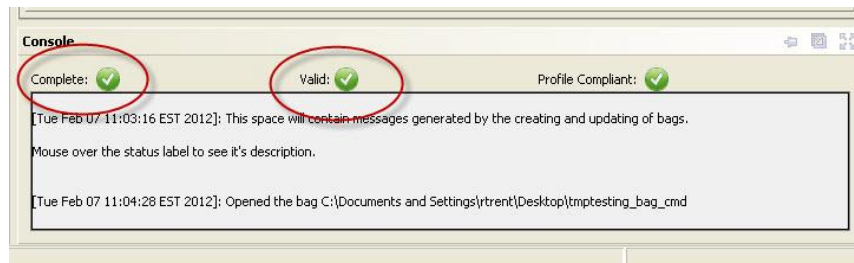


3.1.3 Check results

Once the validation is complete, a popup window will appear that says "Validation successful." Click OK.



Note that the bag now has green check marks indicating that it is complete and valid:



3.1.4 Close Bagger

After validating the bag, you can close bagger using the  in the top right corner or by clicking **Close Bag**:



If Bagger asks you if you would like to save the bag, say no. (You have just finished saving the bag and do not need to re-save it).